

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

Conditional Major Draft Permit No. F-05-042

COWBOY CHARCOAL USA

ALBANY, KY 42602

April 24, 2006

ESMAIL HASSANPOUR, REVIEWER

SOURCE ID #: 21-053-00014

SOURCE AI #: 15850

ACTIVITY ID #: APE20040002

SOURCE DESCRIPTION:

SOURCE PROCESS DESCRIPTION:

Cowboy Charcoal USA has applied to the Kentucky Division for Air Quality to renew their current permits, and has applied for the construction of a second fabric filter baghouse. The second baghouse will be installed and operated in parallel with the existing baghouse that controls Emission Unit 03. The source is being issued a single permit. The source previously operated under permits C-92-152, and S-99-068. Process equipment and emission points have been organized and consolidated, and plant roadways have been added as an emission unit.

The charcoal manufacturing source consists of the following emission units (EU): wood screening and handling operation (EU-07), 14 wood carbonization ovens for production of charcoal product (EU-01), the charcoal stockpile operation (EU-06), the charcoal sizing and bagging operation (EU-03) or alternatively the bulk charcoal loadout operation (EU-04), plant roadways traffic (EU-08), and a 5 mmBtu per hour auxiliary fuel burner

COMMENTS:

Emission Unit 01, the wood carbonization ovens, operates 8760 hours per year, at maximum capacity requiring 39,475 tons per year of wood to be brought into the facility to produce 10,987 tons of charcoal. The other emission units at the facility operate only to the extent needed to handle and process these quantities of wood and charcoal, at less than or equal to 8760 hours per year. Therefore, the source has requested limits based on the maximum capacity of the wood carbonization ovens.

Emission Unit 01: Emission Unit 01 consists of 14 wood carbonization ovens for production of charcoal. These 14 ovens were previously included under Emission Units 01 and 02, and Emission Unit 09 (registration date, April 29, 1996) which DAQ had determined could be constructed without a permit revision. The current permit application proposes to consolidate these 14 like ovens under Emission Unit 01. These 14 ovens in total produce no more than 10,987 tons per year of charcoal at maximum capacity, at 8760 hours per year operation.

Potential emissions are calculated based on this maximum capacity production rate of 10,987 tons per year, and a source test data from a representative wood carbonization oven. 401 KAR 59:010 applies to particulate emissions for the 14 wood carbonization ovens in total, with the emission limitation based on a combined process input rate for all ovens of 4.375 tons of wood per hour and the process weight rate-based equation. Considering the throughout capacity of 39,475 tons per year, the hourly rate should have been 4.5 tons of wood per hour. However the unit's design is limited to 4.375 tons per hour.

Pursuant to 401 KAR 59:010, Section 3(2), particulate emissions shall not exceed 9.00 lb/hr on a three hour average, and opacity emissions from the ovens' exhaust stacks shall not exceed 20 percent based on a 6-minute average.

Emission Unit 03: Emission Unit 03 consists of the charcoal sizing and bagging operation. The processing equipment have been previously included under permitted Emission Units 03 and 05. Since all of the equipment operate from one material input point, and the equipment are ventilated to one particulate emission control system, the current permit application proposes to consolidate the charcoal sizing and bagging operations under the one Emission Unit 03. Potential emissions calculated in the application have been based on processing the entire 10,987 tons per year of charcoal produced by Emission Unit 01, and AP-42 emission factors. 401 KAR 59:010 applies to particulate emissions from the charcoal sizing and bagging operations, based on a process input rate of 1.25 tons/hr of charcoal. Particulate emissions from the charcoal sizing and bagging operations are controlled by the fabric filtration baghouse system.

Pursuant to 401 KAR 59:010, Section 3(2), particulate emissions shall not exceed 4.12 lb/hr on a 3-hour average, and opacity emissions from baghouse exhaust stacks shall not exceed 20 percent, based on a 6-minute average.

Emission Unit 04: Emission Unit 04 consists of the bulk charcoal load out operation. The actual emissions calculated in the application have been based on an operating rate of 1,000 tons per year of bulk charcoal load out, and AP-42 emission factors. Any emissions from the operation of Emission Unit 04 have already been accounted for under Emission Unit 03, at a higher emission rate. Pursuant to 401 KAR 63:010 Section 3, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. In addition, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. The materials processed at each unit listed above shall be controlled with wet suppression and/or enclosures so as to comply with the standards specified in Section 3 of 401 KAR 63:010, Fugitive emissions. Compliance is demonstrated when daily observations indicate no visible fugitive dust emissions extend beyond the property line and that the processes and controls are operating normally. Observations and records, if applicable, shall be utilized to document failure to comply.

STATEMENT OF BASIS:**PAGE 3**

Emission Unit 06: Emission Unit 06 consists of the charcoal stockpile operation. Potential emissions calculated are based on processing the entire 10,987 tons per year produced by Emission Unit 01, and AP-42 emission factors. Pursuant to 401 KAR 63:010 Section 3, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. In addition, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. The materials processed at each unit listed above shall be controlled with wet suppression and/or enclosures so as to comply with the standards specified in Section 3 of 401 KAR 63:010, Fugitive emissions. Compliance is demonstrated when daily observations indicate no visible fugitive dust emissions extend beyond the property line and that the processes and controls are operating normally. Observations and records, if applicable, shall be utilized to document failure to comply.

Emission Unit 07: Emission Unit 07 consists of the wood screening and handling operation, for production of up to 39,475 tons per year of sized wood input material to the 14 wood carbonization ovens of Emission Unit 01. Actual emissions calculated in the application have been based on processing the entire 39,475 tons per year of wood, and AP-42 emission factors. Pursuant to 401 KAR 63:010 Section 3, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. In addition, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. The materials processed at each unit listed above shall be controlled with wet suppression and/or enclosures so as to comply with the standards specified in Section 3 of 401 KAR 63:010, Fugitive emissions. Compliance is demonstrated when daily observations indicate no visible fugitive dust emissions extend beyond the property line and that the processes and controls are operating normally. Observations and records, if applicable, shall be utilized to document failure to comply.

Emission Unit 08: Emission Unit 08 consists of fugitive emissions from plant roadways, for production of up to 39,475 tons per year of sized wood input material to the 14 wood carbonization ovens of Emission Unit 01. Potential emissions calculated are based on AP-42 emission factors, along with plant roadway traffic associated with handling 39,475 tons per year of wood, 10,987 tons per year of charcoal, and automobiles. Pursuant to 401 KAR 63:010 Section 3, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. In addition, reasonable precautions shall be taken to prevent particulate matter from becoming airborne. The materials processed at each unit listed above shall be controlled with wet suppression and/or enclosures so as to comply with the standards specified in Section 3 of 401 KAR 63:010, Fugitive emissions. Compliance is demonstrated when daily observations indicate no visible fugitive dust emissions extend beyond the property line and that the processes and controls are operating normally. Observations and records, if applicable, shall be utilized to document failure to comply.

Insignificant Activity: This insignificant unit consists of the 5-mmBtu/hr auxiliary fuel burner, infrequently used for the startup of a wood carbonization oven, which is normally maintained in continuous operation. Lesser emissions from the operation of the burner during an oven startup are

simply replacing the greater emissions from the oven. Particulate emissions from the operation have already been accounted for at a higher emission rate under Emission Unit 01, which is considered to be continuously operating around the clock (8760 hours per year).

EMISSION AND OPERATING CAPS DESCRIPTION:

The source shall be limited to emissions of less than 9 tons per year of a single hazardous air pollutant (HAP) and 22.5 tons of any combination of HAPs, and of less than 90 tons per year of any regulated air pollutants, in order to preclude applicability of 401 KAR 52:020. The wood raw material handled shall not exceed 39,475 tons per year and the charcoal produced shall not exceed 10,987 tons per year. The source has requested to be classified as a Conditional Major source with a federally enforceable limit not to equal or exceed 90 tons per year for PM₁₀.

CREDIBLE EVIDENCE:

This permit contains provisions, which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.